

Absorption and Gas Cleaning

Flüssigkeitspumpen, Vakuumpumpen und komplette Vakuumsysteme

Process Pumps for Absorption and Gas Cleaning



Legal regulations, directives and international standards demand that industry minimises toxic emissions, so as to protect both people and the environment. To reduce toxic emissions the use of absorption technology is often used.

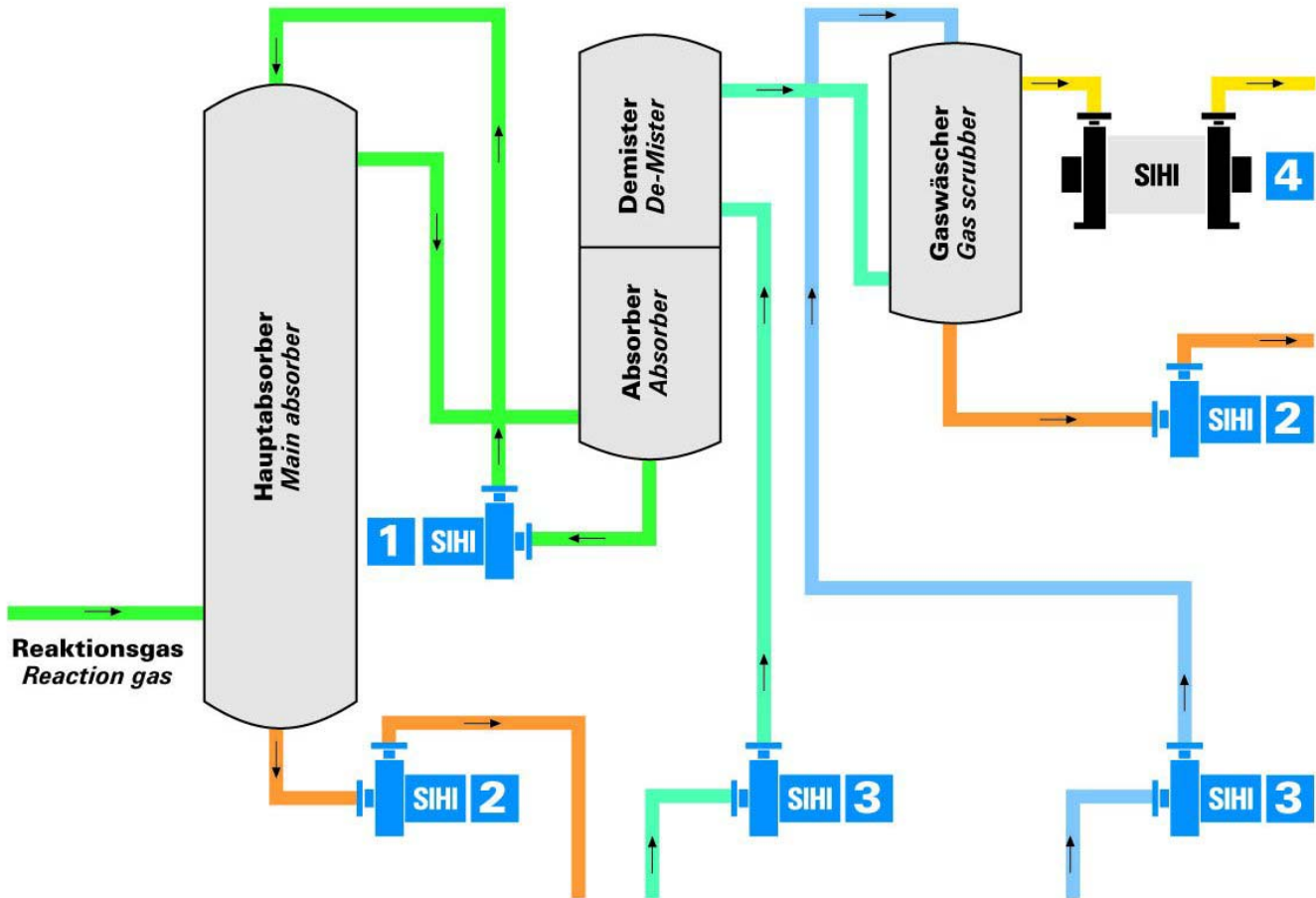
Gas **absorption** is described as, dissolving gases or gas mixtures in liquids or solids. The liquid is called the “absorber” and the gas is called the “absorbent”.

The gas is at a defined temperature while the liquid absorber is at a temperature that permits absorption to occur most efficiently.

The **gas washer** is a piece of equipment which operates in such a way as to allow the gas to flow in the opposite direction to the liquid flow, so as to absorb any elements held in the gas back into the liquid.

The elements in the gas flow can be solid, liquefied or gaseous. Washing liquids often used include water, solvents or suspensions such as lime water. Depending on the kind of gas, sometimes acids or alkaline washing liquids are used or even oxidiser or reducer's are included.

Process Pumps for Absorption and Gas Cleaning



An overview of the various Process Pumps

- 1 Circulation pumps**
To increase the efficiency of the absorption it is possible to operate this process using many stages. Circulation pumps are used to transfer the media.
- 2 Discharge pumps**
The discharge pumps transfer the product from the sump of the absorption process to other stages in the system or onto tanks where it is stored. Depending on the properties of the absorber and gas washer liquid the requirements for the discharge pumps vary.
- 3 Feed pumps**
The feed pumps transfer the liquid to the absorber and the washing liquid to the gas washer. The requirements for the different feed pumps vary, depending on the volume of the absorber and gas washer as well as depending on the absorber and washing liquid properties.
- 4 Vacuum pumps**
At the top of the gas washer, vacuum is needed to draw off the flue gas. The flue gas is then transferred to other stages in the process or to waste for disposal. For this process, liquid ring vacuum pumps are used.

Innovative Solutions from Sterling SIHI

Process pumps	Pump types	Pump execution			
1 Circulation pumps	Chemical process pumps Type CBS, CBM, CBE, CBT		Capacity: Shaft sealing:	max. 2200 m³/h mechanical seal, mag drive	
			Materials:	nodular iron, stainless steel, special materials on request	
2 Discharge pumps	Chemical process pumps Type CBS, CBM, CBE, CBT		Capacity: Shaft sealing:	max. 2200 m³/h mechanical seal, mag drive	
			Materials:	nodular iron, stainless steel, special materials on request	
3 Feed pumps	Chemical process pumps Type CBS, CBM, CBE, CBT		Capacity: Shaft sealing:	max. 2200 m³/h mechanical seal, mag drive	
			Materials:	nodular iron, stainless steel, special materials on request	
4 Vacuum-pumps	Liquid ring vacuum pumps Type LPHX/LPH		Capacity: Shaft sealing:	max. 10700 m³/h stuffing box, mechanical seal	
			Materials:	grey cast iron, stainless steel	



... Liquid pumps, vacuum pumps and complete vacuum systems ... from one source

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